ss
tion
ch

Miniature Cryogenic Turboalternator

Creare, Inc.
Hanover, NH

INNOVATION

ature, high speed vibration free, turboalternator

ACCOMPLISHMENTS

h speed shaft in cryogenic gas bearings.

h precision, automated miniature rotor fabrication hniques.

monstrated shaft/bearing system at 50 Kelvin.

nieved design speed and power targets for the rnator.

apted for use as a cryogenic circulator/compressor.

COMMERCIALIZATION

13 million multi-year Phase III contract was awarded NASA to support several future low temperature ace instruments.

ff has increased by over 10%.

nger term commercial applications include ocoolers for low temperature and high temperature perconducting medical and electronics instruments.

ntract to deliver a cryocooler using the turboalternator l circulator technology.

OVERNMENT/SCIENCE APPLICATIONS

ual load cryocooler is being developed for the Air ce Phillips Laboratory for Space IR Sensors.

rd Space Flight Center

MINIATURE CRYOGENIC TURBOALTERNATOR

GOVERNMENT/SCIENCE APPLICATION

- A multi-year low temperature cooler for NASA in several test machines and a 4 K - 6 K cooler for Generation Space Telescope, Constellation X.
- A turboBrayto cryocooler using this technology h flight qualified on STS-95 and will be integrated NICMOS instrument on the Hubble Space Teles late 2001.

Points of Contact:
- NASA - Judy Gibbon; 301-286-2
- Creare - Walter Swift; 603-643-